REVIEW

Diagnosis and management of benign prostatic hyperplasia in primary care

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Abstract

Benign prostatic hyperplasia (BPH), and its clinical manifestation as lower urinary tract symptoms (LUTS), is a major health concern for aging men. There have been significant advances in the diagnosis and treatment of BPH in recent years. There has been a renewed interest in medical therapies and less invasive surgical techniques. As a consequence, the treatment needs of men with mild to moderate LUTS without evidence of prostate cancer can now be accomplished in a primary care setting. There are differences in the way urologists and primary care physicians approach the evaluation and management of LUTS due to BPH, which is not reflected in Canadian Urological Association (CUA) and American Urological Association (AUA) guidelines. A "shared care" approach involving urologists and primary care physicians represents a reasonable and viable model for the care of men suffering from LUTS. The essence of the model centres around educating and communicating effectively with the patient on BPH. This article provides primary care physicians with an overview of the diagnostic and management strategies outlined in recent CUA and AUA guidelines so that they may be better positioned to effectively deal with this patient population. It is now apparent that we must move away from the urologist as the first-line physician, and allow primary care physicians to accept a new role in the diagnosis and management of BPH.

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Introduction

Benign prostatic hyperplasia (BPH), and its clinical manifestation as lower urinary tract symptoms (LUTS), is a major health concern for aging men.[1] An estimated 42% of men aged 51 to 60 have BPH, compared with over 70% of those aged 61 to 70, and almost 90% of those aged 81 to 90.[1] Population-based data reveal that outpatient office visits for BPH in Canada rose by over 50% between 2000 and 2004.[2] Coincident with the rising number of office visits has been a dramatic shift in the assessment and treatment of LUTS due to BPH. As a consequence, the initial management of BPH has shifted from the urologist to the family practitioner and other primary care physicians.[3,4] Subsequently, because of the rapidly increasing understanding of BPH and expanding treatment options, the Canadian and American urological associations were prompted to publish more relevant guidelines in 2005 and 2003, respectively.[5,6]

Recent studies have demonstrated that the initial management of BPH may vary between the urologist and the primary care physician. Wei and colleagues[7] showed that the percentage of men who pursue active treatment, as opposed to watchful waiting, was notably greater for those seen by a urologist regardless of LUTS severity.[4] Urologists and primary care physicians also differed in their choice of therapy. Urologists prescribed 5-alpha-reductase inhibitors (5-ARIs), combination therapy with an alpha-blocker and 5-ARI, and an anticholinergic therapy significantly more often than primary care physicians.[4] Primary care physicians, on the other hand, prescribed nonselective alpha-blockers more often than urologists.[4] It is not apparent why these differences exist, but it is possible that primary care physicians view LUTS mostly as a quality of life (QOL) issue and are less concerned with the progressive nature of the disease.[4] It could also be due to the fact that patients with similar symptoms but who are more bothered about them are referred along to a urology specialist for management. That being said, many feel that a "shared care" approach to the diagnosis and treatment of BPH should be adopted.[3,8] Primary care physicians are better positioned to identify men with LUTS and those at risk for disease progression, and should consider treatment for those men with mild to moderate symptoms without evidence of prostate cancer. In contrast, men with more severe symptoms requiring urgent or emergent treatment (such as surgery) should be seen by a urologist.[3] Thus, educating primary care physicians regarding changes in the management of BPH and progression is very important. This article aims to assist physicians in the diagnosis and treatment of BPH in the primary care setting so as to: (1) facilitate access to needed care; (2) improve long-term outcomes of LUTS management and stop the progression of BPH; and (3) avoid surgical consultations in cases where primary care management is sufficient.

Biology of BPH

BPH is an enlargement of the prostate gland from the progressive hyperplasia of stromal and glandular prostatic cells,[1] and is characterized histologically by the presence of discrete nodules in the periurethral zone of the prostate gland.[9] The etiology of BPH leading to an enlarged prostate is unknown but is likely to have an endocrine basis.[10] Other factors that have been described but not proven to contribute to BPH include sexual activity, alcohol, genetic factors and age.[10] Family history and race may also raise the risk of symptomatic BPH.[11]

LUTS associated with BPH is caused by the extrinsic compression of the prostatic urethra leading to impaired voiding;[9] however, there are other causes of LUTS besides an enlarged prostate (Table 1).[12] It is estimated that one-half of all men with BPH experience LUTS,[13] of which urinary hesitancy, weak stream and nocturia are the most commonly reported symptoms (Table 2).[9,10,14] The severity of the symptoms do not, however, always correlate with the size of the prostate.[9] BPH may be complicated by recurrent urinary tract infections, gross hematuria or bladder stones.[9] As a consequence of the progressive nature of BPH, patients with LUTS will deteriorate over time, and in some patients can lead to acute urinary retention (AUR).[15] AUR, which requires bladder drainage via catheterization is, however, uncommon, with an annual risk of less than 1%.[9] Obstructive uropathy, while rare, is the most severe complication of progressive BPH. BPH management achieves two goals: (1) to improve the symptoms associated with LUTS, and (2) to reduce the risk of progression (in terms of symptoms and/or complications).[16] Clinical judgment, based on assessment of severity of symptoms, complications or worrisome PSA, should be used when deciding whether the patient should be referred to a urologist.

Diagnosis

Men commonly fail to seek help for LUTS associated with BPH,[16] even though the symptoms are often associated with a decreased QOL, anxiety and depression.[17] Therefore, it is imperative that primary care physicians routinely inquire about urinary function with men over the age of 50.[16] Many men fear that their urinary symptoms are a sign of prostate cancer. The primary care physician can help the patient by ruling out prostate cancer and reassuring them that BPH is not cancer or even a precursor to cancer, but rather a common, treatable disorder.[16] Timely diagnosis is essential in the effective management of BPH.[18] Studies have shown that moderate symptoms of BPH can affect QOL as much as severe chronic obstructive pulmonary disease.[19]

Patient history

A medical history should be performed to clearly establish the symptoms and their severity so as to exclude other conditions, such as prostatitis (Table 1).[5,9,12] Most patients who seek treatment do so because their symptoms are affecting their QOL.[13] A questionnaire such as the International Prostate Symptom Score (IPSS)[20] can be used to evaluate and quantify a patient's symptom severity (Appendix 1). Moreover, this questionnaire provides the physician with an objective means by which to gauge how a particular patient is responding to therapy.[6,19] A score of 0 to 7 indicates mild symptoms; a score of 8 to 19 and a score of 20 to 35 suggest moderate and severe symptoms, respectively.[6] Close attention should be paid to the final QOL question on the IPSS. It reads: "If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?"[6] The answer to this question reflects the patient's willingness to accept treatment to lessen his symptoms and gives the physician insight into how bothered the patient is by his symptoms.[6,19] This tool should never replace personal discussion with the patient but rather be used as a guide and introduction to the subject.[13] It is important to impress upon the patient that BPH symptoms progress over time, and as they progress, the chance of developing AUR or needing surgery increases.[19]

Table 1. Differential diagnosis of lower urinary tract symptoms

Bladder cancer
Prostate cancer
Prostatitis
Bladder stones
Interstitial cystitis
Radiation cystitis
Urinary tract infection
Diabetes mellitus
Parkinson's disease
Primary bladder neck hypertrophy
Congestive heart failure
Lumbosacral disc disease
Multiple sclerosis
Nocturnal polyuria

Adapted from the *International Journal of Clinical Practice*.[12]

Table 2. Lower urinary tract symptoms seen in benign prostatic hyperplasia

Storage	Voiding	Other
Urgency	Hesitancy	Postvoid dribble
Frequency	Poor flow	
Nocturia	Intermittency	
Urge incontinence	Straining	
Stress incontinence	Dysuria	
	Incomplete emptying	

Adapted from the *Cleveland Clinical Journal of Medicine*.[14]

The general medical inquiry should focus on the urinary tract symptoms and previous surgical procedures and general health and lifestyle issues that may be associated with LUTS.[13] Several classes of medications may cause or exacerbate LUTS and should not be overlooked in the patient's medical history (Table 3).[9]

Physical examination

A focused urological examination should be performed.[19] Palpation and percussion of the suprapubic area to determine whether a significant amount of residual urine is present, and examination of the external genitalia and testes, should be performed.[19] The digital rectal examination (DRE) remains the most important aspect of the physical examination.[5,19] Size, shape, symmetry, quality, nodularity and consistency of the prostate must all be evaluated so as to establish whether good evidence of prostate cancer exists.[19] The DRE tends to underestimate the true size of the prostate.[13] A palpable nodule is suggestive of prostate cancer and should suggest the need for a prostatic biopsy (a decision best left to a urologist).[9] When combined with a prostate-specific antigen (PSA) test, a DRE improves the detection of prostate cancer.[21] Urinalysis is necessary to screen for urinary tract infections, bladder cancer and stones. Depending on the patient's history, other laboratory studies to consider include urine culture, serum creatinine and glucose (if diabetes is suspected).[5,16,19] Noninvasive urine flow rates, postvoid residual measurement, pressure-flow studies, cystoscopy, and renal or transrectal ultrasound (TRUS) are optional, unless dictated by specific circumstances, such as recurrent hematuria, pelvic pain or urinary retention. In these cases, a urologist should be involved.[16]

If there is any concern about prostate cancer from an elevated PSA or abnormal rectal examination, referral to a urologist should be made. A histologic diagnosis is required to make the diagnosis of prostate cancer.[22] Again, decisions to recommend a biopsy are best left to a urologist, who considers the patient's age, medical condition, baseline PSA, PSA velocity (rise of PSA over time) and previous history of BPH and/or biopsies.

Table 3. Medications that may contribute to lower urinary tract symptoms

Medication	Mechanism
Antihistamines	Decreased parasympathetic tone
Decongestants	Increased sphincter tone via alpha-adrenergic receptor stimulation
Diuretics	Increased urine production
Opiates	Impaired bladder contractility
Tricyclic antidepressants	Anticholinergic effects

Adapted from *American Family Physician*.[9]

PSA testing in men presenting with BPH

PSA is an established biomarker for prostate cancer but can also be used in the diagnoses of BPH and provides important information on its progression.[23] Men with higher serum PSA levels (and no clinical evidence of prostate cancer) have a higher risk of future growth of the prostate, symptom and flow rate deterioration, AUR and surgery.[13] It is imperative that the benefits and risks of PSA testing be discussed with the patient.[13] Any patient whose life expectancy is greater than 10 years[9,16] and who presents with symptoms of BPH, or who is considering medical or interventional therapy for BPH and would be a candidate for prostate cancer treatment should have their serum PSA tested.[9,19] PSA is also helpful in deciding upon the most appropriate therapy. PSA is a more accurate reflection of prostate volume than DRE[9,16,24] and correlates with the risk of symptom progression.[9] A serum PSA value of 1.5 ng/mL or greater is indicative of a prostate volume of at least 30 cc.[19] PSA determination prior to treatment with a 5-ARI helps to establish a pretreatment reference point.[16] Any patient with an age-related elevated serum PSA level or whose level has increased substantially over time (more than 0.75 ng/mL per year) should be referred to a urologist.[19]

It is recommended that PSA testing begin at the age of 50. However, if there is a family history of prostate cancer (first-degree relative) or if the patient belongs to a high-risk group, such as African-American/Canadian males, it is recommended that testing start at age 40.[25]

Table 4. Common drugs used to treat benign prostatic hyperplasia

Alpha-blockers	Dosage	Side effects
Terazosin	1 mg once daily to start; may increase up to 20 mg/day	Asthenia, hypotension, dizziness, somnolence
Doxazosin	1 mg once daily to start; may increase up to 8 mg once daily	Orthostatic hypotension, fatigue, dyspnea
Tamsulosin	0.4 mg once daily	Dizziness, rhinitis, abnormal ejaculation
Alfuzosin	10 mg once daily	Fatigue, edema, rhinitis, headache, upper respiratory tract infection
5-ARIs		
Finasteride	5 mg once daily	Impotence, decreased libido, decreased semen quantity at ejaculation, decreased semen PSA, gynecomastia (rare)
Dutasteride	0.5 mg once daily	Impotence, decreased libido, decreased semen quantity at ejaculation, decreased semen PSA, gynecomastia (rare)

Adapted from the *Cleveland Clinical Journal of Medicine*.[14] 5-ARIs = 5-alpha reductase inhibitors; PSA = prostate-specific antigen.

Treatment

A treatment algorithm for BPH has been established by the Canadian Urological Association (CUA) and is based primarily on a combination of the degree of symptoms, the amount of bother, and the size of the prostate (with PSA used as a surrogate marker for prostate size in patients with no clinical evidence of prostate cancer).[5] Treatment options for BPH include lifestyle changes, "watchful waiting," pharmacologic therapy, non-surgical procedures and surgery.[14,16,17,22] Treatment, whether it be conservative or more aggressive, aims to improve urinary flow, decrease the symptoms an individual may be experiencing, and delay or prevent the progression of BPH.[14] The choice of treatment from a patient's perspective may differ from that of the physician's.[10] Choosing the right treatment is a personal preference and, although each treatment is likely to relieve and improve symptoms, each has different risks, complications and chances of success.[14,16] It is imperative that a patient's preference for a particular treatment be weighed against the severity of the symptoms and specific physiologic variables used in a physician's diagnosis.[14] The physician therefore has a responsibility to inform patients about their options, and to reassure patients that decisions will be made jointly.[16] Patients who seek treatment are typically those with moderate to severe symptoms (i.e., IPSS 8 or higher) and enlarged prostates.[16,17]

Watchful waiting and lifestyle changes

Watchful waiting is a management strategy whereby the patient is monitored by their physician but receives no treatment.[13] Watchful waiting together with lifestyle changes and periodic re-evaluation is most appropriate for patients with mild LUTS (i.e., 7 or fewer) and/or no bothersome symptoms, regardless of the prostate size.[5,18] The level of symptom distress that a patient can tolerate varies considerably, so watchful waiting may be a patient's choice, despite a high American Urological Association Symptom Index (AUA-SI) or IPSS score.[13] A variety of lifestyle changes may be suggested and include fluid restriction, avoidance of irritative foods or beverages (e.g., caffeine or alcohol), avoidance and/or monitoring of some medications (e.g., diuretics, decongestants, antihistamines, antidepressants), timed voiding (bladder retraining), pelvic floor exercises, and treatment for constipation.[5]

Pharmacotherapy

Alpha-adrenergic antagonists (alpha-blockers) and 5-ARIs are the medications currently approved by Health Canada for use in the treatment of BPH (Table 4).[5] Although pharmacologic therapies may not be as efficacious as surgical therapies, they may provide adequate symptom relief.[13]

Alpha-blockers

Second-generation (doxazosin and terazosin) and third-generation (alfuzosin and tamsulosin) alpha-blockers have been recommended by the CUA as treatment options for patients with LUTS secondary to BPH.[5] First-generation alpha-blockers and prazosin are not recommended.[5] Alpha-blockers act by relaxing the smooth muscle in the prostate and bladder neck via inhibition of alpha1-adrenoceptor mediated sympathetic stimulation.[9,26] Second- and third-generation alpha-blockers are well established in the treatment of LUTS due to BPH.[28] Although there are slight differences in their side effects, they are believed to be equally clinically effective and provide the most rapid symptom relief.[13] Alpha-blockers improve symptoms; however, they do not provide long-term reduction in the risk of AUR or BPH-related surgery.[26,27] Unlike second-generation alpha-blockers, tamsulosin and alfuzosin do not need to be titrated over time.[28] Tamsulosin and alfuzosin are more selective in relaxing prostatic smooth muscle; thus, they have no effect on blood pressure.[9] The primary adverse events reported with alpha-blockers are orthostatic hypotension, dizziness, fatigue (asthenia), ejaculatory problems and nasal congestion.[13] The risk of dizziness is lower with tamsulosin and alfuzosin than with second-generation agents. Tamsulosin has been found to have a lower probability of orthostatic hypotension[13] but a higher rate of ejaculatory dysfunction (10%)[13,29] and does not appear to cause erectile dysfunction or reduced sexual drive.[29] Patients should discuss the appropriate alpha-blocker for their individual condition with their doctors.

5-ARIs

The 5-ARIs, dutasteride and finasteride, act by blocking the conversion of testosterone to dihydrotestosterone (DHT), an androgen believed to be responsible for prostate enlargement.[28] The 5-ARI class represents the sole hormonal therapy to date that demonstrates both efficacy and acceptable safety for the treatment of BPH.[13] Decreases in DHT have been shown to induce prostatic epithelial apoptosis and atrophy.[28] The rationale for using 5-ARI to manage BPH is, therefore, to decrease the serum and especially the cellular levels of DHT, resulting in a decrease in prostate size.[26] Finasteride, which inhibits type 2 5-AR, suppresses serum DHT by 70.8% ± 18.3% at 24 weeks[5] but not to castrate levels.[13] Dutasteride provides a greater level of serum DHT suppression (94.7% ± 3.3%) and is able to inhibit both type 1 and type 2 5-AR.[30] According to CUA and AUA guidelines, dutasteride and finasteride are appropriate treatments for patients with LUTS associated with demonstrable prostatic enlargement, but should not be used to treat men with LUTS without prostatic enlargement.[5,13] Treatment with finasteride in the 4-year Proscar Long-Term Efficacy and Safety Study (PLESS), reduced prostate volume by 18% (v. a 14% increase with placebo; $p < 0.0001$), improved AUA-SI symptom scores (2.6 points v. 1.0 for placebo; $p < 0.001$), and reduced the risk of AUR by 51% and surgery by 55% ($p < 0.001$ for both compared with placebo).[31] Finasteride, in the more recently reported Medical Therapy of Prostatic Symptoms (MTOPS) study, reduced prostate volume by 19% but, more importantly, reduced the risk of clinical progression by 34% relative to placebo (to 2.9 per 100 person years; $p = 0.002$).[32] Dutasteride, in a 2-year study, showed a reduction of approximately 26% in prostate volume, which was sustained for an additional 2 years in an open-label extension.[33,34] Treatment with dutasteride was also accompanied by a 4.5-point improvement in symptom score (v. 2.3 points for placebo; $p < 0.001$) and a 57% and 48% reduction in the risk of AUR and surgery ($p < 0.001$ for both).[33,34] The recently published CombAT (Combination Therapy with Avodart and tamsulosin) study, which examined the first two years of data comparing dutasteride, tamsulosin and combination therapy, showed for the first time that in a population of men with prostate volumes over 30 cc and PSA > 1.5 ng/ml (the optimal population for 5-ARI therapy), 5-ARI therapy with dutasteride resulted in significantly more symptom decrease than the alpha-blocker tamsulosin.[15,35]

Finasteride and dutasteride have both been shown to reduce PSA levels by approximately 50% after 6 months.[33,36] This PSA suppression is maintained over time. If PSA rises while on a 5-ARI, a check on drug compliance is in order. If the patient has been taking the drug as prescribed, a referral should be made to a urologist.

Combination therapy

Treatment with both a 5-ARI and an alpha-blocker has been recommended for patients who have an enlarged prostate gland and who have symptoms of bladder outlet obstruction.[5,13,28] The rationale for this recommendation is that a rapid relief of symptoms will be provided by the alpha-blocker, and a more sustained relief of symptoms will be pro-

vided by the 5-ARI. More importantly, the 5-ARI will reduce the risk of serious complications such as AUR and/or the need for BPH-related surgery.[19] In MTOPS, the risk of progression was reduced by 66% with combined therapy (finasteride and doxazosin) v. placebo ($p < 0.001$), and to a greater extent than with either drug by itself (34% for finasteride and 39% for doxazosin).[32] Further to this finding, the need for surgery and the risk of AUR were both reduced with combined therapy and with finasteride on its own, but not with doxazosin monotherapy.[32] In similar fashion, the CombAT trial showed after 2 years that improvements in symptom and bother scores as well as IPSS question 8 (QOL question) were significantly greater with combination therapy (dutasteride and tamulosin) than with either monotherapy regimen.[15,35,37]

Results of the Symptom Management After Reducing Therapy (SMART) study[38] and the PROACT (Proscar and Alpha-Blocker Combination Followed by Discontinuation Trial)[39] study suggest that, for most patients, the alpha-blocker can be safely discontinued after 6 to 9 months of combination therapy with no decrease in efficacy. Potential advantages of discontinuing the alpha-blocker include lower cost, fewer side effects and better compliance. Therefore, if the patient is doing well on combination therapy, a trial of alpha-blocker discontinuation may be worthwhile.

Phytochemicals

Phytochemicals — plant-derived, non-nutritive compounds with protective or disease-preventive properties — have been the subject of increasing interest in the treatment of BPH. However, results have been mixed, and the majority of studies involving phytochemicals have not been subjected to the same rigorous pre-clinical pharmacological testing and large-scale clinical trials conducted with the alpha-blockers and 5-ARIs. The best described and studied phytotherapeutic agent, *Serenoa repens* (saw palmetto), has shown mild to moderate efficacy in reducing nocturia, increasing maximal urinary flow and improving International Prostate Symptom Score (IPSS) in men with BPH,[40,41] with results comparable with that of tamsolusin.[40,42,43] However, other trials have shown no significant beneficial effect of *S. repens* compared with placebo,[44] and a recent Cochrane Review concluded that *S. repens* was not more effective than placebo for the treatment of urinary symptoms consistent with BPH.[45]

Pygeum africanum, an extract from the African prune tree, is another popular alternative remedy for BPH,[46] and has been shown in a Cochrane review to provide moderate relief from the urinary problems caused by BPH.[47] However, the studies were limited by their small size, short duration, and varied doses and preparations, and most did not use standardized, validated measures of efficacy.[47]

BPH-related surgery

Surgical treatment of BPH is necessary, and referral to a urologist is warranted[4] if medical treatments fail, or if benign prostatic obstruction causes renal insufficiency, urinary retention, recurrent urinary tract infections, bladder calculi or hydronephrosis.[14] Surgical alternatives include transurethral resection of the prostate (TURP), transurethral incision of the prostate (TUIP; recommended for prostate glands less than 30 g), open prostatectomy (recommended for prostate glands more than 100 g), transurethral electrovaporization of prostate (TUVP) and laser prostatectomy.[5,14] Postoperative risks such as erectile dysfunction, retrograde ejaculation and urinary incontinence (rare) are possible and the 5-year recurrence rate of BPH following surgery is 2% to 10%.[14] Less invasive surgical therapies (referred to as minimally invasive therapies or MIST) include transurethral microwave therapy (TUMT), transurethal needle ablation (TUNA) and intraprostatic stents.[5]

Conclusions

BPH is a common cause of LUTS in older men. Patient evaluation, including DRE and careful differential diagnosis are important steps in making an accurate clinical diagnosis and can be easily accomplished in a primary care setting without the need for a urologist. Some tips from the authors are provided in Appendix II. Some men with BPH are asymptomatic and others are not bothered by their symptoms; watchful waiting is most appropriate. When and if symptoms affect a patient's QOL, an alpha-blocker and/or 5-ARI may be used. In addition, combination therapy, an alpha-blocker and 5-ARI, has showed a rapid improvement in symptoms with minimal side effects. In addition, the 5-ARIs have demonstrated they can prevent progression and the need for surgery. Surgical intervention is required if and when BPH leads to other serious complications, including AUR and renal insufficiency. Primary care physicians can play a vital role in diagnosing and treating men with mild

Appendix I: International prostate symptom score (IPSS)

Name: _____ Date: _____

	Not at all	Less than 1 time in 5	Less than half the time	About half the time	More than half the time	Almost always	Your score
Incomplete emptying Over the past month, how often have you had a sensation of not emptying your bladder completely after you finish urinating?	0	1	2	3	4	5	
Frequency Over the past month, how often have you had to urinate again less than two hours after you finished urinating?	0	1	2	3	4	5	
Intermittency Over the past month, how often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5	
Urgency Over the last month, how difficult have you found it to postpone urination?	0	1	2	3	4	5	
Weak stream Over the past month, how often have you had a weak urinary stream?	0	1	2	3	4	5	
Straining Over the past month, how often have you had to push or strain to begin urination?	0	1	2	3	4	5	

	Not at all	Less than 1 time in 5	Less than half the time	About half the time	More than half the time	Almost always	Your score
Nocturia Over the past month, many times did you most typically get up to urinate from the time you went to bed until the time you got up in the morning?	0	1	2	3	4	5	

Quality of life due to urinary symptoms	Delighted	Pleased	Mostly satisfied	Mixed – about equally satisfied and dissatisfied	Mostly dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that?	0	1	2	3	4	5	6

Total score: 0-7 Mildly symptomatic; 8-19 moderately symptomatic; 20-35 severely symptomatic.

Appendix II. Tips for managing benign prostatic hyperplasia in the primary care setting

- Prostate size is important in determining the risk of progression and need for therapy. However, prostate size is difficult for primary care physicians and urologists alike to measure.
- PSA is an important marker of risk for prostate cancer in men presenting with LUTS. Elevated PSA (>1.5 ng/mL) in men with BPH and no prostate cancer can predict risk of progression.
- Inform patients taking 5-ARIs of their PSA values in follow-up. This information allows them to objectively assess the action of the 5-ARI, even from 3 months onward.
- PSA should decrease by about 50% in men taking 5-ARIs. An inadequate decrease in PSA after 6 to 12 months of therapy with 5-ARIs should prompt a referral to urology.
- Alpha-blockers work quickly but do not decrease the risk of progression.
- 5-ARIs work slowly but do decrease the risk of progression.
- 5-ARIs work better in men with large prostates (<30 cc) and higher PSA levels (<1.5 ng/mL).
- Combination therapy works better than monotherapy.
- 5-ARIs and tamsulosin may result in a decrease in ejaculatory volume.
- Reduced ejaculation can be used as a marker to demonstrate to men that the 5-ARI is working. The patient should be informed that this change in volume should not reduce sexual pleasure and is reversible.
- Patients should understand that stopping their prostate growth is important in preventing the likelihood of needing a surgical intervention and bleeding down the road. Although only a minority of men will ever really need to have a TURP or will have significant bleeding, taking the 5-ARI reduces this risk significantly and is valued by many men as a result.
- If a patient is doing well on combination therapy, consideration for a trial of alpha-blocker discontinuation is worthwhile.
- A urological consultation is warranted if cancer is suspected, medical therapy is not effective, and/or complications are present.
- Inform patients that 5-ARI therapy for most men is a lifelong treatment and that the use of a 5-ARI is like preventative care rather than treatment of an urgent or emergent problem. It is always better to prevent something than to fix a problem in a rush.
- Men may be told that their hair may become a bit thicker as a side effect of their 5-ARI treatment.

PSA = prostate-specific antigen; LUTS = lower urinary tract symptoms; 5-ARIs = 5-alpha-reductase inhibitors; TURP = transurethral resection of the prostate.

to moderate LUTS and no evidence of prostate cancer. Primary care physicians should use their clinical judgement when considering if and when a referral to a urologist is warranted. A "shared care" approach has been proposed and should form an integral part of all future diagnostic and treatment guidelines for BPH.

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